

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Previously Presented): A soil producing method for producing second soil containing organic halides with a second concentration lower than a first concentration from first soil containing the organic halides with the first concentration, comprising the steps of:

- introducing the first soil to a hermetic zone;
- pumping out the hermetic zone to a vacuum state using at least a vacuum pump;
- thermally decomposing at least a part of the organic halides by heating the first soil in the hermetic zone under the vacuum state; and
- heating, at an exhaust portion of the hermetic zone also under the vacuum state, a gaseous substance produced by the thermal decomposition of the organic halides.

Claim 2 (Original): The soil producing method as set forth in claim 1, wherein the organic halides are dioxins.

Claim 3 (Previously Presented): The soil producing method as set forth in claim 1, further comprising the step of:

- reducing the concentration of halogen contained in gases produced by the thermal decomposition of the soil.

Claim 4 (Original): The soil producing method as set forth in claim 1, wherein a thermally decomposed residue of the first soil is cooled after the hermetic zone is purged by a purge gas which is substantially organic halide-free and not capable of generating organic halides.

Claim 5 (Previously Presented): The soil producing method as set forth in claim 4, wherein the purge gas contains at least one element selected from a group consisting of helium, neon, argon, krypton, xenon, nitrogen, and hydrogen.

Claim 6 (Original): The soil producing method as set forth in claim 1, wherein the thermally decomposing step is performed in the hermetic zone where an oxygen concentration is controlled.

Claims 7-10 (Canceled).

Claim 11 (Previously Presented): A soil producing method, comprising:
thermally decomposing soil containing organic halides under a vacuum state formed using at least a vacuum pump; and
heating, at an exhaust portion of a hermetic zone under the vacuum state, a gaseous substance produced by the thermal decomposition.

Claim 12 (Original): The soil producing method as set forth in claim 11, wherein the concentration of halogen contained in gases produced by the thermal decomposition of soil is reduced.

Claims 13-21 (Canceled).

Claim 22 (Previously Presented): A treatment method, comprising:
thermally decomposing an object to be treated containing organic halides under a vacuum state formed using at least a vacuum pump; and

heating, at an exhaust portion of a hermetic zone under the vacuum state, a gaseous substance produced by the thermal decomposition.

Claims 23-31 (Canceled).

Claim 32 (Previously Presented): A treatment method, comprising:

passing an object to be treated through a furnace allowing the control of thermal decomposition temperature or through a plurality of reduced pressure furnaces different in thermal decomposition temperature when being subjected to thermal decomposition treatment under a vacuum state formed using at least a vacuum pump; and

heating, at an exhaust portion of the furnace or one of the plurality of the reduced pressure furnaces under the vacuum state, a gaseous substance produced by the thermal decomposition.

Claim 33 (Previously Presented): A treatment method,

providing a furnace allowing the control of thermal decomposition temperature at which an object to be treated is subjected to thermal decomposition treatment;

changing the pressure in the furnace from normal pressure to a vacuum state formed using at least a vacuum pump; and

heating, at an exhaust portion of the furnace under the vacuum state, a gaseous substance produced by the thermal decomposition treatment.

Claim 34 (Original): A treatment apparatus, wherein a normal pressure furnace and a plurality of reduced pressure furnaces each for subjecting an object to be treated to thermal

decomposition treatment are continuously provided, and the thermal decomposition temperature in each of the furnaces is set so as to increase with progress to a later stage.

Claim 35 (Previously Presented): The treatment apparatus as set forth in claim 34, further comprising:

halogen trapping means placed to connect with the reduced pressure furnaces and holding metal for forming compounds with halogen contained in gases produced by the thermal decomposition of the object to be treated or an adsorbent for adsorbing the halogen in the produced gases therein.

Claim 36 (Currently Amended): A treatment method, comprising:

treating a residue containing residual dioxins generated from waste disposal facilities and factories while heating the residue in a hermetic zone under a vacuum state formed using at least a vacuum pump; and

heating, at an exhaust portion of the hermetic zone under the vacuum state, a gaseous substance produced by the treatment of the heated residue is heated under a the vacuum state.

Claims 37-45 (Canceled).